



## Background of the invention

The present invention relates to a hanger for clothing made of injection-molded plastic.

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More particularly, the invention relates to hangers that can hold at least one item of clothing for display on a store clothes rail or for hanging in the home of the wearer of the clothing.

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## Description of the prior art

The injection-molded plastic hangers that are currently available comprise:

- 15 - a hanging hook for hanging said hanger from a support external to the hanger and which comprises a head and a base,
- a carrying body for supporting at least one item of clothing, comprising at least a first and a second  
20 arm that extend substantially in the same longitudinal direction, but with opposite orientations, the hook and the two arms being made overall as one piece defining substantially the same plane,
- 25 each of the first and second arms comprising a distal end and a proximal end, the distal ends of the two arms being joined directly to the base of the hook by branching, and  
the first and second arms and the hook having a hollow  
30 section comprising at least one end wall and two legs that are oriented substantially transversely to the plane of the hanger.

Although numerous attempts have already been made to  
35 reinforce the rigidity of such hangers, the hangers of the above type have the drawback that they frequently break, or that they become deformed when an item of clothing that is too heavy is hung on them.

Moreover, the solutions proposed have often had disappointing results for the user, insofar as one of the faces of the hanger has a quality appearance while the other face of this hanger appears less solid.

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Furthermore, most of the hangers obtained using injection-molded plastic with reinforced rigidity have a section that is not suitable for hanging clothing, i.e. their section causes deformation of said clothing.

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#### Summary of the invention

The object of the present invention is therefore to propose a novel hanger for clothing made of injection-molded plastic that overcomes the abovementioned drawbacks, having a reinforced structure that does not cause deformation of the clothing that is to be hung. Furthermore, the present invention aims to propose a hanger having a good rigidity/weight ratio, such that the structure does not become deformed in a particular direction under the weight of the clothing. The present invention also aims to provide a hanger of improved esthetic appearance, so that the user can use the hanger indiscriminately by the front face or by the rear face.

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According to the present invention, in combination:

- the hook has the same hollow cross section as the first and second arms, i.e. comprising an end wall and two legs, and
- the hollow cross section of the hook is joined to the two distal ends of the two arms, respectively, in a continuous manner, by branching, i.e. directly by dividing into two branches, with continuity of material and of cross section with the abovementioned two distal ends respectively.

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This arrangement ensures a strong link between, on the one hand, the hanging hook and, on the other hand, the

hanger's carrying body, without compromising the quantity of plastic used or the production of the hanger by injection-molding plastic.

- 5 Thus, by virtue of this arrangement, not only does the hanger have a section of reinforced structure having a good rigidity/weight compromise, but also a section whose shape does not cause deformation of the clothing that is hung on said hanger.

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In a preferred embodiment, the non-angular shape of the hollow section comprises a shape chosen from among oval, round or rounded-square shapes.

- 15 According to another preferred embodiment of the invention, the dimension of the section varies without interruption in a first direction, lying in the plane of the hanger, and/or in a second direction running in a direction transverse to the plane of the hanger, such  
20 that the hanger has a reinforced or greater section in the areas subjected to higher stresses.

- According to another embodiment, the hollow section also has two wings each extending from one of the legs  
25 so as to define a W, such that the hanger comprises a front face with one groove and a rear face with two grooves. This W section extends continuously along the hook and the arms of the hanger, including in the area where the distal ends of the arms join the base of the  
30 hanger.

As a variant, the wings have a concave face on the side facing the legs of the section.

- 35 Also preferably, the hanger further comprises a transverse bar running between the proximal ends of the arms, made as one piece with these arms.

The hanger preferably also has a rib linking the first and second arms, near their distal ends.

In any case, the invention will be clearly understood  
5 with the aid of the following description, referring to the attached schematic drawing that shows, by way of non-limiting example, a preferred embodiment of a hanger according to the invention.

10 Description of the drawing

Figure 1 is a perspective view of the hanger according to the present invention, seen from its front face.

15 Figure 2 is a plan view of the rear face of the hanger of figure 1.

Figures 3 and 4 are cross-sectional views on lines III-III and IV-IV of the hanger shown in figure 2.

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Description of the preferred embodiment

The hanger 1 shown in figures 1 and 2 is designed to carry clothes and is made, as a single piece, of  
25 injection-molded plastic. It comprises, as is known, a hanging hook 2 for hanging the hanger from an external support, and a carrying body 3 designed to carry at least one item of clothing and made as one piece with the hanging hook 2.

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The hanging hook 2 comprises, as is usual, a head 4 extended by a base 5. Thus, the hook forms an open loop for retaining the hanger securely on a support bar (not shown).

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The carrying body 3 has a first arm 7 and a second arm 8, lying in the same plane, in one longitudinal direction but with opposite orientations. The two arms

7, 8 and the hook 2 are in the same plane, hereinafter called the hanger plane, and are made as one piece.

Each of the two arms 7, 8 extends over a certain length in said plane between a distal end, denoted 9, 11 respectively, and a proximal end, denoted 10, 12 respectively. The arms 7 and 8 are joined directly to the base 5 of the hook 2 so that their distal ends 9 and 11 form, with the base 5, a Y-shaped branching.

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All of the constituent parts of the hanger i.e. both the hook 2 and the two arms 7, 8, have the same hollow section (cross section, i.e. perpendicular to the plane of the hanger), such that they each have (figures 3 and 4) at least one end wall 15 and two legs 16, 17 extending from this end wall 15. The hollow shape is open substantially transversely to the hanger plane, such that the two legs 16 and 17 extend substantially transversely to this plane. Thus, the hollow section opens out either on the front face 21 of the hanger, or on the rear face 22 of said hanger.

Preferably, the hollow section of the hanger 1 comprises two other wings 18 and 19, each extending from one of the legs 16, 17, forming returns. The hollow section thus defined is in the shape of a W.

The front face 21 of the hanger 1 therefore has one groove 23, while the rear face 22 of this hanger has two grooves 24, 25.

Preferably, the hollow shape extends continuously over all of the constituent parts of the hanger 1, including the part where the distal ends 9, 11 of the arms 7, 8 join the base 5 of the hook 2. Thus, the groove 23 runs continuously over one face of the hanger, along the whole developed length of the hanger, while the two grooves 24 and 25 also run, on the other face of the hanger, along the whole length of said hanger.

This results from the division of the hook 5, and in particular of its cross section, continuously, into two branches that are joined continuously to the two distal  
5 ends 9 and 11, respectively. Correspondingly, at the hook 5, the core formed by the end wall 15 and the two legs 16 is also continuously divided into two branches, belonging to the two arms 7 and 8, respectively.

10 Preferably, the section is inscribed within a non-angular shape, chosen from among oval, round or rounded-square shapes. Thus, the wings 18 and 19 have, at least on the outside of the W section, a rounded shape which is concave on the side facing the legs 16  
15 and 17 of said section.

The item of clothing intended to be hung on this hanger rests on one of the wings 18 or 19, in the present case on the wing 19, without being deformed owing to the  
20 shape of said wing, since the latter is of rounded shape.

Furthermore, according to an essential feature of the present invention, the dimensions of the W section vary  
25 without interruption so that the hanger has a cross section that is reinforced or greater in areas of this hanger that are subjected to the highest stresses.

As shown more particularly in figures 3 and 4, the  
30 section of the arms 7 and 8, in their middle part, may therefore be bigger than the section of the rest of the arms. In particular, the dimensions increase in a first direction lying in the plane of said hanger, and/or in a second direction running in a direction transverse to  
35 said plane. Thus, the hanger may have areas of increased height and/or width.

These enlarged dimensions reinforce the flexural and torsional strength of the hanger when the latter is

loaded. The continuous W section advantageously offers a very good weight/mechanical properties compromise with respect to another section.

5 It will also be understood that the front 21 and rear 22 faces may also be considered to be the rear and front faces, respectively. In fact, the structure of the hanger according to the present invention means that it can be used indiscriminately by one or other of  
10 its faces.

The end wall 15 forms a hollow on one of the faces, whereas it is a solid part on the other face. Likewise, the areas where the legs 15, 16 join the returns 18, 19  
15 are solid parts on one of the faces, whereas they form grooves 24, 25 on the other face.

The alternation between grooves and solid parts on each of the faces of the hanger gives the hanger a quality  
20 appearance, since the user considers the structure to be almost symmetrical. This effect is reinforced when the user grasps the hanger, since the section is non-angular and has a three-dimensional shape.

25 In the middle part of the arms 7, 8, the wing 18 is made as one piece with reliefs 29. These reliefs increase the capacity for retaining the clothing supported by the arms. When referring to the arms, this wing 18 may be considered to be the upper wing of the  
30 section, since it comes into contact with the clothing. Its concave shape helps prevent damage to the clothing supported by the hanger 1.

The proximal ends 10, 12 of the two arms 7, 8 are  
35 curved toward one another so as to be integral with a transverse bar 30. This bar is designed to carry a pair of pants, for example, and has the same section as the other constituent parts of the hanger described above. To reinforce the mechanical properties of the hanger,

the dimensions of the section of the curved ends are also increased in the direction transverse to the hanger plane.

- 5 Furthermore, the hanger 1 has a rib 31 linking the first and second arms 7, 8, near their distal ends 9, 11. Together with the distal ends 9, 11 of the arms, this rib 31 defines an oblong shape, delimiting a window 32. The rib is flat, for example. As a variant,
- 10 the section of this rib is identical to that of the hook 2 and the arms 7, 8. Furthermore, the shape of each of the arms 7, 8 is interrupted in the area where it joins the rib 31, to further improve the mechanical properties of the hanger.